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09/873,830	06/04/2001	Mohamed I. Jabri	28893.6	5419

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EXAMINER	
STEELMAN, MARY J	
ART UNIT	**PAPER NUMBER**
2191	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/873,830	JABRI, MOHAMED I.	
	Examiner	Art Unit	
	MARY STEELMAN	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1023* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to Claim Amendments, Remarks, and Amendments to the Specification received 05/21/2007. A Petition Decision to revive the application was granted and entered on 07/11/2007. Per Applicant's request, claims 1, 3, 7, 9, 13, 17, and 22 are amended. The Specification is amended. Claims 1-23 are pending.

Claim Rejections - 35 USC § 112

2. In view of the claim amendments, the prior 35 U.S.C. 112, second paragraph rejections are hereby withdrawn.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-8 recite the limitation "the step of". There is insufficient antecedent basis for this limitation in the claim.

Claim 1 may be modified to recite, "...the method comprising the steps of:" in the preamble to overcome this rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 17-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Independent claim 1 recites a 'system' but fails to include any hardware to enable the functionality. Claims recite "software pre se", which is non-statutory. The Specification fails to provide the hardware to enable the "means for" accomplishing the functionality claimed.

Response to Arguments

5. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant has argued (page 12, 2nd paragraph) the Iyengar "by no means describes a method for capturing application logic at an abstract level in such a manner as to be readily deployable and executable without further development.

Examiner's Response:

Claim language recites, "...capturing an application logic at the abstract design level...; dynamically deploying the captured application logic to an execution platform, wherein the

deployed application is immediately executable..." Claim language does not support the argument.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,018,627 to Iyengar et al, in view of USPN 6,802,053 B1 to Dye et al.

Per claim 1:

A method for developing and executing software applications at an abstract design level, the method comprising:

-capturing an application logic at the abstract design level as one or more visual models for developing a software application, the visual models being independent from an underlying programming technology;

-dynamically deploying the captured application logic to an execution platform, wherein the deployed application logic is immediately executable;

-dynamically executing the deployed application logic from the execution platform in response to an external request sent by an external client device to the execution platform, the external request having one or more parameters;

-processing the external request;

-returning one or more response objects after processing the external request; and

-presenting the converted response objects to the external client device based on a type of the external client device or the parameters of the external request.

Iyengar disclosed:

Referring to claim 1, Iyengar disclosed a system for application building in an object-oriented environment *(developing software applications at an abstract design level),* in which the user may create business process models and assign business logic to those models, and then package and deploy the created application (See Abstract, Figs. 1-14 and related text). See Figs. 2a-b, 3 and 4, and Col. 5: 21-30 and 37-59, which states that the preferred embodiment of the invention uses UML, "a method for specifying, visualizing, and documenting the components (objects) of a system under development", to generate models which can be transformed "into any other business process model or object model." The modeling system works independently of the tools used to create the application, and independently of the middleware (connectivity software) that the application interfaces with.)

Fig. 1 - Deploy Application 32, and Col. 12: 30-33, discloses, "The development process will generally end in the application deployment stage. Deployment takes built applications and installs them in the appropriate environments.") Iyengar disclosed that the application can be

developed in conjunction with middleware options (See Col. 11: 26-59), but do not explicitly teach the Steps of executing the application logic in response to a request from a client, processing the request, returning a response, or presenting the response to the client.

However, Dye disclosed:

Col. 4: 25-27, the user interface can be used from the client computers to provide input to or display output from the graphical program during program execution. Col. 4: 46-51, When the user specifies the remote computer running the graphical program, the user may also specify the particular graphical program desired...a parameter indicating the name of the graphical program may be appended to the URL Col. 5:10-12, The user's client-side software, e.g., web browser plug-in, is preferably enabled to interpret any type of user interface panel description that it may receive from the remote computer, and is enabled to appropriately display the user interface panel to the user (presenting the converted response objects to the external client device based on a type of the external client device or the parameters of the external request). Col. 12: 36-38, allow a program to be run from within the development environment Col. 13: 57-59, display the user interface panels appropriately. Col. 14: 20-26, user's client software may receive data updates...display live data (response objects)...Any of various data protocols may be used in transferring and displaying data updates. Col. 14: 52-57, in response to the user manipulating the inputs on the user interface displayed on the client computer, the user input is provided to the graphical program executing on the server computer, which may affect the displayed output of the graphical program (deployed logic is immediately executable).

Therefore, it would have been obvious, to one of ordinary skill in the art at the time of the invention to modify Iyengar, using the teachings of Dye, because Iyengar felt the need for (Iyengar: Col. 2: 18-20) allowing specification and / or generation of source code for applications in a middleware-independent form, to develop a process model. Likewise, Dye disclosed (Dye: col. 2: 47-54) constructing a graphical program using the block diagram editor, data structures are automatically constructed which characterize an execution procedure, (Dye: col. 4: 1-12), various types of user interface panels to export their user interface panels are provided, using common networking and software standards so that users on various types of computing platforms could connect to the remote interface panel to control the program. One would be motivated to continue development using the remote features.

Per claim 2:

-processing further includes converting the parameters of the external request to one or more objects and passing the converted parameters to the application logic.

Dye: See Fig. 7 & Col. 12: 57-67, user accessing a remote graphical program...user specifies a remote computer...user specifies a graphical program on the remote computer Col. 13: 1, may be implicitly implied Col. 13: 14, user may provide a URL to the browser application, and the browser application may then contact a web server...user may then select...clicking on a hypertext link(passing converted parameter to application logic)...

Therefore, it would have been obvious, to one of ordinary skill in the art at the time of the invention to modify Iyengar, using the teachings of Dye, because Iyengar felt the need for

(Iyengar: Col. 2: 18-20) allowing specification and / or generation of source code for applications in a middleware-independent form, to develop a process model. Likewise, Dye disclosed (Dye: col. 2: 47-54) constructing a graphical program using the block diagram editor, data structures are automatically constructed which characterize an execution procedure, (Dye: col. 4: 1-12), various types of user interface panels to export their user interface panels are provided, using common networking and software standards so that users on various types of computing platforms could connect to the remote interface panel to control the program. One would be motivated to continue development using the remote features.

Per claim 3:

-presenting further includes converting the response objects to a predetermined format based on the type of the external client device or the parameters of the external request.

Dye: Col. 14: 25-26, Any of various data protocols may be used in transferring and displaying data updates (response objects).

Therefore, it would have been obvious, to one of ordinary skill in the art at the time of the invention to modify Iyengar, using the teachings of Dye, because Iyengar felt the need for (Iyengar: Col. 2: 18-20) allowing specification and / or generation of source code for applications in a middleware-independent form, to develop a process model. Likewise, Dye disclosed (Dye: col. 2: 47-54) constructing a graphical program using the block diagram editor, data structures are automatically constructed which characterize an execution procedure, (Dye: col. 4: 1-12), various types of user interface panels to export their user interface panels are

provided, using common networking and software standards so that users on various types of computing platforms could connect to the remote interface panel to control the program. One would be motivated to continue development using the remote features.

Per claim 4:

-capturing further includes generating one or more storage device schemas in at least one storage device as required by the captured application logic.

Iyengar disclosed a repository *(storage device schema)* in which "all of the entities and objects associated with the application under development, as well as relationships between these entities and objects, are stored *(one or more storage device schemas in at least one storage device as required by the captured application logic)"* (e.g., see Col. 4: 21-32). It is inherent that the repository is generated during development of an application to store the developed components of that application. Since the repository is not a transient storage medium, it is also inherent that such a repository resides on at least one storage device.

Per claim 5:

-deploying further includes saving the captured application logic to the execution platform.

Iyenger disclosed that during the application deployment stage, "Deployment takes built applications and installs them in the appropriate environments *(saving the captured application logic to the execution platform)"* (e.g. see Col. 12:30-33). Inherent to installing an application is saving the components of that application for later execution.

Per claim 6:

-executing further includes retrieving one or more objects from at least one storage device; and updating one or more storage device schemas in the storage device.

Dye: Col. 14: 52-57, in response to the user manipulating the inputs on the user interface displayed on the client computer, the user input is provided to the graphical program executing on the server computer which may affect the displayed output of the graphical program (user at client computer retrieves one or more objects from server storage device, gives commands, and updates program at server.

Therefore, it would have been obvious, to one of ordinary skill in the art at the time of the invention to modify Iyengar, using the teachings of Dye, because Iyengar felt the need for (Iyengar: Col. 2: 18-20) allowing specification and / or generation of source code for applications in a middleware-independent form, to develop a process model. Likewise, Dye disclosed (Dye: col. 2: 47-54) constructing a graphical program using the block diagram editor, data structures are automatically constructed which characterize an execution procedure, (Dye: col. 4: 1-12), various types of user interface panels to export their user interface panels are provided, using common networking and software standards so that users on various types of computing platforms could connect to the remote interface panel to control the program. One would be motivated to continue development using the remote features.

Per claim 7:

-capturing further includes: defining one or more interrelated objects for the visual models; and constructing one or more high-level structures containing one or more formulas to represent the application logic.

Iyengar disclosed the implementation of a class diagram, which describes "the types of objects in a system and the various kinds of relationships which exist between them *(defining one or more interrelated objects for the visual models)"* (e.g. see Col. 3: 65-66 and Col. 4:1-11). The reference also discloses a means for creating the methods that represent the details of business processes *(one or more high-level structure).* "For example, if the business process is the handling of purchase orders, one detail ... may be that purchase orders over $1,000 must be approved by a manager" (see Background of the Invention, e.g. Col. 1: 34-41). This example represents a formula that details a part of the business logic *(one or more formulas to represent the application logic), I*yengar provides a means for the user to write and edit business logic, in the language of the user's choice, as part of the development phase (see Fig. 1 and Col. 2:57-58).

Per claim 8:

-defining further includes, for each object, defining at least one object type, attribute, relationship to at least one other object and expected behavior.

Iyengar disclosed the applications of relationships to objects in a class, including associations *(relationship to at least one other object),* subtypes *(object type),* and aggregations *(object*

attribute). Since these descriptors are defined at the class level, they are defined for each object (e.g. see Col. 4: 3-11). Iyengar also teaches the use of Rational Rose 4.0 as a tool to develop object models in accordance with the invention (see Fig. 8 and related text, e.g. Col. 9:13-28).

Iyengar does not explicitly teach the step of defining the expected behavior of each object in a class.

However, Dye more explicitly disclosed (Col. 10: 60-67 & FIG. 4), user may interactively or manually create or edit a graphical program...user interactively add various objects to a graphical program, connects them together, etc. Col. 11: 21-26, block diagram comprising objects referred to herein as 'nodes' which are connected together to model the program execution logic, data flow and / or control flow...may be displayed as an icon representing the type or functionality of the node...

Therefore, it would have been obvious, to one of ordinary skill in the art at the time of the invention to modify Iyengar, using the teachings of Dye, because Iyengar felt the need for (Iyengar: Col. 2: 18-20) allowing specification and / or generation of source code for applications in a middleware-independent form, to develop a process model. Likewise, Dye disclosed (Dye: col. 2: 47-54) constructing a graphical program using the block diagram editor, data structures are automatically constructed which characterize an execution procedure, (Dye: col. 4: 1-12), various types of user interface panels to export their user interface panels are provided, using common networking and software standards so that users on various types of

computing platforms could connect to the remote interface panel to control the program. One would be motivated to continue development using the remote features.

Per claim 9:

See rejections noted above for claims 1, 2, 3, and 4.

Per claim 10:

See rejections of limitations addressed in claim 2 above.

Per claim 11:

See rejections of limitations addressed in claim 5 above.

Per claim 12:

See rejections of limitations addressed in claim 6 above.

Per claim 13:

See rejections of limitations addressed in claim 7 above.

Per claim 14:

-the high level structure is a process.

Iyengar disclosed a means for creating the methods that represent the details of business processes, and provide an example of a formula regarding the approval of purchase orders, as described above in reference to claim 7. This formula can be represented by a decision statement *(a process)*.

Per claim 15:

-the high level structure is a rule.

Iyengar disclosed a means for creating the methods that represent the details of business processes, and disclose an example of a formula regarding the approval of purchase orders, as described above in reference to claim 7. This formula can be represented by a decision statement, or a decision rule.

Per claim 16:

See rejections of limitations addressed in claim 8 above.

Per claim 17:

See rejections of limitations addressed in claim 1 above.

Per claims 18-23:

See rejections of limitations addressed in claims 2, 3, 4, 6, 7, and 8 respectively above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached at (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned: 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary Steelman

09/25/2007

MARY STEELMAN
PRIMARY EXAMINER